

US EPA ARCHIVE DOCUMENT



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Division Director (3AP00)

March 18, 2009

Mr. William T. Wisniewski (3RA00)
Acting Regional Administrator
Region III
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Dear Administrator Wisniewski:

On March 12, 2008, the EPA revised the primary and secondary National Ambient Air Quality Standards (NAAQS) for ground-level ozone from the current 0.08 parts per million (ppm) to a new 0.075 ppm. Section 107(d) of the Clean Air Act (CAA) requires the Governor of each State to submit to the EPA a list of all areas (or portions thereof) in the State, designating each as nonattainment, attainment, or unclassifiable. This letter fulfills Delaware's obligations under Section 107(d) of the CAA. It also recommends the placement of Delaware's counties in non-attainment status under the new 0.075 ppm standard in a non-attainment area.

Area Description and Attainment/Nonattainment Status

Delaware is composed of three counties, namely New Castle, Kent and Sussex, laying from north to south. The northern portion of New Castle County lies above the Chesapeake and Delaware Canal, a waterway that connects the Chesapeake Bay with the Delaware Bay. This part of New Castle County is more metropolitan and industrialized than the remainder of Delaware. The remainder of Delaware lies south of the Chesapeake and Delaware Canal, and comprises the southern portion of New Castle County, and all of Kent and Sussex Counties. All three counties share similar air quality problems with respect to ozone, because the problem is predominantly caused by ozone and ozone precursor emissions from upwind states.

Delaware's ozone monitoring network includes ambient ozone monitors in each of its counties (three monitors in New Castle, one monitor in Kent, and one monitor in Sussex). Based on 2006 through 2008 ozone monitoring data (i.e., the most recent three years), the 8-hour ozone

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design values for New Castle, Kent and Sussex counties are 0.083 ppm, 0.081 ppm, and 0.081 ppm, respectively. Since these design values are all greater than the 0.075 ppm standard, all three counties in Delaware should be designated as non-attainment for both the primary and secondary 8-hour ozone NAAQS.

Placement of Delaware's Counties in a Large Nonattainment Area

Ground-level ozone and ozone precursor emissions are pervasive and readily transported. Numerous epidemiological studies conducted during the past decade have revealed that prolonged (i.e., 8-hour) exposure to ozone is associated with increased mortality and a range of serious morbidity health effects, including aggravation of a variety of respiratory symptoms and lung impairment, asthma attacks, respiratory hospital admissions and emergency department visits, and cardiovascular problems. This level of ozone concentration is also associated with adverse public welfare effects, which include impacts on vegetation, and forest ecosystems, and agricultural crop yields. The pervasive nature of ozone, and the serious adverse health and welfare effects associated with ozone non-attainment make non-attainment boundary determinations critical.

Under the 1997 8-hour ozone NAAQS, the EPA included Delaware's three counties in the Philadelphia-Wilmington-Trenton Nonattainment Area. In establishing this area the EPA relied on their policy presumption of using Consolidated Metropolitan Statistical Area (CMSA) boundaries and the prior 1-hour nonattainment area (NAA) boundaries as 8-hour nonattainment area boundaries, except they also considered the impact of upwind emissions and included Ocean County, NJ, despite Ocean County, NJ being part of the New York CMSA. Delaware believes that full consideration of upwind contribution when establishing non-attainment boundaries is necessary because ozone and ozone precursor emissions are pervasive and readily transported. It is important that the emissions that are causing Delaware's ozone problem be subject to the CAA non-attainment requirements.

In its guidance entitled "Area Designation for the 2008 Revised Ozone NAAQS (December 4, 2008)," EPA recommends using the Core Based Statistical Area (CBSA) or Combined Statistical Area (CSA), similar to the previous CMSA concept, to delineate nonattainment boundaries. In the guidance, EPA recognizes that upwind contribution is significant, and indicates that "In addition to nearby areas with sources contributing to nonattainment, ozone concentrations in a local area may be affected by long-range transport of ozone and its precursors (notably nitrogen oxides). In certain parts of the country, such as the eastern United States, ozone is a widespread problem." However, in this guidance document EPA also indicated that where this is the case, the CAA does not require that all contributing areas be designated nonattainment, but only the nearby areas; and that regional strategies, such as those employed in the Ozone Transport Region and EPA's NOx SIP Call are needed to address the long-range transport component of ozone nonattainment, while the local component must be addressed through local planning in and around the designated nonattainment area. The EPA's practice being guided by this interpretation has led to a separation between regional controls and local controls, which has been proved to be substantially ineffective in ozone NAAQS strategy

planning and attainment. In particular, this interpretation has led ineffective, insufficient and delayed regional controls, and insufficient and even no local controls being installed in many areas due to exclusion of many contributing areas/counties in the nonattainment designation.

Section 107(d)(1) of the CAA defines a nonattainment area as "any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant." In the context of a regional problem like ozone nonattainment, the term "nearby" must be interpreted consistent with the scale of the problem and the nature of the pollutant. For the purposes of solving air quality problems associated with pollutants like sulfur dioxide and carbon monoxide, CMSA or CBSA/CSA scale boundaries have proven adequate. This is because concentrations of these pollutants above the standard are generally driven by emission sources that are very close, geographically and do not involve complex atmospheric chemistry. However, this is not the case with ozone. Over the past 35+ years, and in particular since 1990, Delaware's local sources of ozone precursor emissions have all been well controlled, yet Delaware's air quality remains non-attainment relative to ozone. High ozone concentrations in Delaware are not driven by emission sources that are geographically close, but rather emissions sources that are many miles away. Given this, Delaware believes that it is necessary to consider regional transport of ozone and ozone precursor emissions in establishing non-attainment area boundaries. More specific reasons for this belief include:

- The CBSA/CSA approach is based on census data rather than air-shed monitoring and/or analysis data. Census data, in comparison to air-shed data, represents a poor surrogate for determining ozone non-attainment boundaries. This is particularly true for areas like Delaware that are heavily affected by long-range transport of ozone and ozone precursors.
- Detailed regional air-shed studies have been completed in the past decade or so, such as the Regional Oxidant Modeling (ROM) project covering most of the Ozone Transport Region (OTR) states, the Ozone Transport Assessment Group (OTAG) project, the NOx SIP Call analysis covering most of the Eastern U.S., and the EPA Clean Air Interstate Rule (CAIR) analysis. These studies have demonstrated that the ozone problem is transport-driven and regional in scope, rather than localized or confined to the relatively small CBSA/CSA domains.
- The studies mentioned above have further demonstrated that individual CBSA/CSA based non-attainment areas do not have the ability to achieve attainment regardless of the levels of emission controls they implement within their own jurisdictional boundaries. Delaware believes that this conclusion should become the cornerstone of good air quality planning and policy, starting with the crucial boundary determinations.
- In many downwind nonattainment areas, including Delaware, the air coming into a county is often with ozone concentration greater than 0.075 ppm (i.e., greater than NAAQS). Therefore, it becomes impossible for such an area to solve its non-attainment problem under its own authority. The CBSA/CSA approach has led to situations where many downwind areas are struggling with non-cost-effective controls to reduce ambient ozone components that come from upwind areas that are not subject to the reasonable emission control requirements. As a result, protection of public health in those

downwind areas has been severely hindered and delayed because reasonable emission controls are not in place in the upwind areas.

- The CBSA/CSA approach has led to stringent controls being implemented within individual non-attainment areas. This approach has had success in the OTR toward achieving attainment of both 1-hour (0.12 ppm) and the current 8-hour (0.08 ppm) ozone NAAQS, however, the most success toward attainment of ozone NAAQS in the OTR to date is attributable to national measures taken by the EPA, and regional measures developed and adopted by the Ozone Transport Commission (OTC) member states. The area is also facing with having to implement measures that will provide diminishing returns. We are revisiting standards for a second or third time for sectors that go uncontrolled in the contributing upwind states.

In its December 4, 2008 guidance, EPA recommends nine factors for states to use to justify their boundary recommendations. The EPA states its rationale for recommending these factors as being that they are similar to the ones used to establish CBSAs and CSAs. Delaware believes, however, using these factors to justify ozone non-attainment boundaries because they are similar to the ones used to establish CBSAs and CSAs is not appropriate. Instead, boundary recommendations must be evaluated with consideration given to the pervasive nature of the pollutant ozone, and the ozone/precursor transport issue discussed above.

Based on the above discussion Delaware recommends that EPA include Delaware's three counties in a single multi-state regional large nonattainment area (NAA) that includes all counties in the states of Maryland, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Virginia, and West Virginia. This area encompasses the emissions that are causing Delaware's ozone non-attainment problems, and rationale for it is more fully described in the CAA Section 126 petition that Delaware submitted to the EPA on December 15, 2008. A map that details Delaware's recommended nonattainment area boundaries is attached to this letter. Delaware believes that this approach would:

- Reinforce the science-based and wide-accepted fact that ozone non-attainment is a "regional problem" and not only a "local problem";
- Include all or most of the counties necessary to solve this regional problem, give them a vested interest in solving this regional problem, and foster cooperative development and implementation of control strategies that are most effective to solving the wide-spread ozone nonattainment problem;
- Remove political barriers and level the playing field by setting the consistent baseline of control requirements of Subpart 2 of Title I, Part D of the CAA within the region, which include New Source Review (NSR), vehicle Inspection and Maintenance, and highly cost effective Reasonably Available Control Technology (RACT) requirements;
- Effectively compliment national and regional rules that address regional transport;
- Greatly simplify and provide equity to the process of implementing the new 8-hour NAAQS.

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implementation of control strategies that are most effective to solving the wide-spread ozone nonattainment problem;

- Remove political barriers and level the playing field by setting the consistent baseline of control requirements of Subpart 2 of Title I, Part D of the CAA within the region, which include New Source Review (NSR), vehicle Inspection and Maintenance, and highly cost effective Reasonably Available Control Technology (RACT) requirements;
- Effectively compliment national and regional rules that address regional transport;
- Greatly simplify and provide equity to the process of implementing the new 8-hour NAAQS.

Delaware believes that the above large-NAA recommendation represents the most effective and economical way to address the pervasive ozone nonattainment problem in the northeast region. If, however, the EPA chooses not to embrace the above recommendation (i.e., not to fully consider upwind contribution in setting nonattainment boundaries, and not to establish a large regional ozone non-attainment area), despite our confidence that is a better course of action, then Delaware proposes that the EPA establish Delaware as a stand-alone ozone nonattainment area (i.e., the geographical boundaries of Delaware constitute Delaware's ozone nonattainment boundaries). Delaware suggests this stand-alone alternative not because it is the best approach to clean the air, but rather because it is more rationale than a CBSA/CSA supported designation under the muse that emissions within the CBSA/CSA area are causing the nonattainment problem. Note that Delaware's ozone nonattainment problems are mainly caused by long-range ozone/precursor transport from upwind sources, and under this approach the EPA would need to commit to develop and implement effective regional controls to completely mitigate ozone/precursor transport in the timeframe of Delaware (and other downwind states) attainment schedule according to the CAA.

Thank you for your consideration of the above recommendations. If you feel you cannot support the large non-attainment boundary approach discussed above Delaware would like to have an opportunity to continue this discussion before you propose any modification. If you have any questions concerning this submittal or would like to discuss it further, please contact Mr. Ali Mirzakhilili, the administrator of our air quality management section, at (302)739-9402.

Sincerely,



Jack A. Markell
Governor

pc: Dave Small
Jim Werner
Ali Mirzakhilili
Judith Katz ✓

Attachment 1

**Delaware Recommendation of Large
Nonattainment Area Boundaries for the 2008 Revised Ozone NAAQS**

Delaware Recommended 8-hour Ozone Non-attainment Boundaries

